

REMARKS

The claims have been amended as suggested by the Examiner at page 2 of the October 6, 2003 Official Action except that the suggested amendment to claim 1, line 3 was not made for grammatical reasons.

In addition, to more clearly distinguish the present invention from the prior art, the claims have been amended to recite calcination at a temperature above 200°C and, in the case of claim 2, to recite calcination at 300°C to 1000°C (specification, page 4, line 11).

Claims 3-4 and 12-13 were rejected under 35 USC 112 as being indefinite.

Claim 3 has been amended to clarify that calcination is after the wash cycle. Claim 4 has been amended to delete the "wash-calcine-wash" phrase which was objected to. Claims 12 and 13 have been amended to delete the expression "and the like" which was objected to. In view of these amendments, reconsideration of the rejection under 35 USC 112 is respectfully requested.

Claims 1, 9-10, 14 and 15 were rejected under 35 USC 102(b) as being anticipated by Takada. Reconsideration is respectfully requested.

The claims presently in the case have been amended to more clearly define the invention and to distinguish the invention from the prior art. In essence, the process of the invention provides for the aqua-thermal carrier treatment wherein the carrier is washed then calcined at a temperature above 200°C and then again washed. Each of the washings can comprise a wash cycle of from one to five individual washes. It is essential that the designated

calcination be provided between two successive wash cycles in order that the advantages of the present invention be achieved.

Silver ethylene oxide catalysts comprising the aqua-thermal treated carrier exhibit substantially improved characteristics when used for the production of ethylene oxide as demonstrated by the data contained in the instant application.

It is the respectful contention of applicant that the Takada reference, cited by the Examiner, does not show or suggest the instant claimed invention. In particular, Takada does not describe or suggest the aqua-thermal treatment which is critical and essential to practice of the instant invention.

Takada does not show successive carrier washes with the intermediate calcination at temperature great than 200°C and thus provides no teaching of the present invention or the significant improvements achieved thereby. The drying step at 120°C of Takada is not the same as or the equivalent of the high temperature intermediate calcination which is required according the present invention.

The Examiner's contention that claim 9 is met by the Takada disclosure of boiling his carrier at 90°C is respectfully traversed. Claim 9 depends from claim 1 and thus carries the recitation of successive washes with intermediate calcination above 200°C, which procedure is not shown by Takada. Claim 9 further recites heating the carrier to 50-1000°C after the aqua-thermal treatment and is distinct from and patentable over Takada.

Accordingly, it is the contention of applicant that Takada neither discloses nor provides a suggestion of the present invention and the Examiner is requested

to reconsider and withdraw the rejection of claims 1, 9, 10, and 14 under 35 USC 120(b) as unpatentable over Takada.

Claims 2-8 and 11 were rejected under 35 USC 103(a) as unpatentable over Takada applied as above and in further view of Jin. Reconsideration is requested.

The primary Takada reference deals with the treatment of carriers having as the main component alpha alumina. By way of contrast, Jin deals with the preparation of alpha alumina carriers by the extrusion and calcining of various materials such as hydrated alumina, boehmite, flux agent and the like. The treatment at elevated temperature described by Jin has to do with the preparation of the alpha alumina having certain physical characteristics. Takada in his carrier washing procedures would not be led to a consideration of the carrier preparation procedures of Jin much less to the advantages derived by practice of the invention. The Examiner postulates that it would be obvious to combine the teachings of the references but applicant respectfully disagrees with the prima facie obviousness arguments of the Examiner. Takada is concerned with an alpha alumina carrier which he describes treating in a certain fashion. A person skilled in the art dealing with the prepared carrier would not be led to the procedures used in fashioning the carrier much less to the expectation of achieving the improvements achieved through practice of the invention.

With regard to the Jin teaching on the use of ammonium fluoride, Jin does not teach washing with this material. Jin adds fluoride to his paste and the paste is extruded and calcined in order to impart certain pore characteristics to his

finished product. Such a teaching has no analogy in Takada either with regard to purpose or function.

Reconsideration of the rejection on Takada alone is requested for the reasons given above in connection with the rejection of claims 1, 9, 10, 14 and 15, and reconsideration of the rejection on Takada in view of Jin is requested in light of the above analysis.

Reconsideration and withdrawal of the rejection under 35 USC 103(a) is requested.

Claims 12 and 13 were rejected as being unpatentable under 35 USC 103(a) as being unpatentable over Takada and further in view of Mross. Reconsideration is requested.

The rejection on Takada is respectfully traversed for the reasons given above in connection with claims 1, 9, 10, 14 and 15.

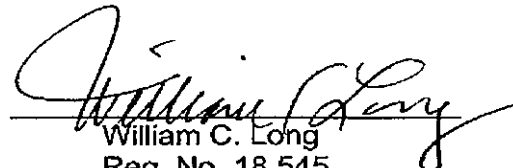
Mross does not deal with the aqua-thermal treatment which is a critical and required feature of the instant invention and thus does not remedy the fatal defects of the primary reference. Mross does not provide such an added disclosure which would be combined with that of Takada by the skilled worker to arrive at the instant disclosure.

Applicant has made a significant and substantial advance in the art of ethylene oxide catalysis which is not shown or suggested by the teachings of the cited art above alone or in combination. Absent the knowledge provided by the instant disclosure, the skilled worker could not logically avoid at the claimed invention from a consideration of the prior art teachings.

The claims have been reduced in number and no new independent claims have been added. Accordingly, it is believed that no additional fees are owed at this time. Should this be incorrect, authority is given to charge any deficient amount to Deposit Account No. 12-2138.

Allowance of the case is respectfully requested.

Respectfully submitted,


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